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Kennecott

Dr. Dexter Hinckley
Office of Solid Waste (WH-565)
U.S. Environmental Protection Agency
401 M Street, S.W.
Washington, D.C. 20460

Re: Mining Waste Exclusion (SWH-FRL 2871-7)

Dear Dr. Hinckley:

Kennecott submits the following comments in opposition to the notice of proposed rulemaking to reinterpret the Bevill Amendment (50 Fed. Reg. 40292, October 2, 1985).

EXECUTIVE SUMMARY

Kennecott is one of the Nation's largest processors of copper and at full capacity accounts for 23 percent of domestic production. Kennecott has copper mining, milling, smelting, and refining facilities in Utah, New Mexico, Arizona, Nevada, and Maryland.

Kennecott opposes EPA's proposal to reinterpret the Bevill Amendment to subject most copper industry smelting and refining wastes to regulation under Subtitle C of RCRA prior to the study of processing wastes EPA is required to perform by Section 8002(p).

The Bevill Amendment, adopted by Congress in 1980, excludes from regulation "solid waste from the extraction, beneficiation, and processing of ores and minerals" pending completion of mandated studies. Less than a month after the amendment was enacted, EPA interpreted the exclusion to encompass "solid waste from the exploration, mining, milling, smelting, and refining of ores and minerals" (45 Fed. Reg. 76619, November 19, 1980). That interpretation is correct in view of the plain language of the law, its legislative history, and the fact that smelting and refining are universally recognized as necessary steps in the processing of many ores and minerals, including copper, into a finished and marketable product.

EPA recently completed a study of mining and beneficiation wastes as required by Section 8002(f), but has not yet begun the study of processing wastes as required by Section 8002(p). EPA apparently believes that if "processing" can now be interpreted to exclude smelting and refining, then no additional study is needed. That position is contrary to Congressional intent. Instead of trying to avoid its obligation under Section 8002(p) by reinterpreting the Bevill Amendment, EPA should promptly undertake the study of smelting and refining wastes Congress asked it to do in 1980.

This proceeding, however, involves far more than a legal dispute over statutory construction. For Kennecott, the heart of the matter is whether EPA should regulate smelting and refining wastes on a separate basis from extraction and beneficiation wastes at integrated mining and processing facilities. All three of Kennecott's major facilities, in Utah, New Mexico, and Arizona, have integrated mining, milling, and smelting operations; in Utah and Arizona, refining is also an integrated part of the facilities. Kennecott uses environmentally sound disposal practices which cannot reasonably be separated or subjected to different regulatory regimes based on the origin of the waste stream. The fact that wastes from mining, milling, smelting, and refining are intermingled at many facilities -- including Kennecott's -- means that they should be studied together before regulations are considered. This is precisely why Congress directed that the Section 8002(p) study of processing waste be undertaken "in conjunction with" the Section 8002(f) study of mining waste. Only after a complete study under both provisions can waste produced at integrated facilities be regulated on a coordinated and cost-efficient basis.

With respect to costs, Kennecott disagrees with EPA's assessment that the financial impact of regulating processing wastes under Subtitle C would be insignificant. To see what would be involved in the present proposal, Kennecott retained an outside consulting firm to study its facilities in Utah, New Mexico, and Arizona. That study, which is attached, indicates minimum costs for Kennecott of $27.8 million in initial capital expenditures, $38.6 million in total capital expenditures for a 20-year production life, and at least $9.4 million in additional annual pre-tax operating and maintenance costs if the proposal is finalized. Kennecott's costs would be far greater than the amounts

projected by EPA's consultant for the entire industry, which were just $2.6 million for capital and $236,000 for annual pre-tax costs. In light of such a substantial difference in cost estimates, as well as the severely depressed conditions in the domestic copper industry, EPA should carefully re-examine the economic impact of the proposal.

The key consideration in this proceeding is the study of smelting and refining wastes required by Congress in Section 8002(p). Until that study is performed, all wastes from the exploration, mining, milling, smelting, and refining of copper ore should continue to be excluded from RCRA regulation under Subtitle C in accordance with EPA's original interpretation of the Bevill Amendment.

I. THE TERM "PROCESSING" USED IN THE BEVILL AMENDMENT REFERS TO SMELTING AND REFINING.

A. Accepted Meaning of "Processing"

In the preamble to the proposed reinterpretation, EPA contends that "[i]n consulting various sources, we have found no standard, accepted definitions, i.e., 'plain meanings,' for the terms of the exclusion, particularly 'processing'" (50 Fed. Reg. 40293, col. 3). To the contrary, the meaning of the words used in the Bevill Amendment is not subject to dispute: extraction is mining, beneficiation is concentrating, and processing is smelting and refining.

"Processing" is defined by the Bureau of Mines as "the methods employed to clean, process, and prepare coal and metallic ores into the final marketable product" (Mining, Minerals and Related Terms, 1968 ed.). The Department of Interior refers to the "mineral processing industries" as including smelting and refining (Mining and Minerals Policy (1975), p. 6). The Engineering and Mining Journal includes smelting and refining under "mineral processing operations" (International Directory of Mining and Mineral Processing Operations, 1980 ed.). The Society of Mining Engineers covers smelting and refining in its discussion of "mineral processing" (Mining Engineering Handbook, 1976 ed.).

Moreover, in the background documents in this rule-making, all three of EPA's consultants characterize smelting

and refining as "processing." In the Overview of Solid Waste, General, Management, and Chemical Characteristics for the Primary Copper Smelting and Refining Industry (December 1984), PEI Associates states that "[p]yrometallurgical processing of copper ore concentrates involves roasting or drying, smelting, converting, and refining" (p. 3-4). PEI also states that "[t]he domestic primary copper processing industry currently is comprised of 11 smelters, 6 refineries (electrolytic and fire refineries), and 9 electrowinning plants" (p. 6-1). In Hazardous Waste Management Costs in Selected Primary Smelting and Refining Industries (September 1985), ICF Incorporated states that "[t]he three most commonly used processing methods for copper ores and concentrates are pyrometallurgical processing (smelting), electrolytic refining, and hydrometallurgical processing (including electrowinning)" (p. 4-1). And in the Economic Impact Analysis of Proposed Reinterpretation of Solid Waste Exemption for the Primary Smelting and Refining Industry (October 1985), Policy Planning & Evaluation, Inc., refers to smelting and refining as "processes" in primary copper production (p. V-1).

Under EPA's proposed reinterpretation of the Bevill Amendment, the only copper industry processing waste that would be excluded pending further study is smelter slag. All other smelter waste, and all refinery waste, would be subject to regulation without study. EPA's justification for limiting the exclusion for smelter waste to slag rests entirely on its reading of legislative history, which Kennecott refutes in the next section. As for refinery waste, EPA says only that "copper with 98 percent purity," that is, pre-refined copper, "can be marketed as a finished product for certain purposes" (50 Fed. Reg. 40293, col. 2), implying that refining is not processing because it is unnecessary in achieving a marketable product. That conclusion not only ignores the accepted meaning of processing, as discussed above, but is factually erroneous. The prime market for copper products is in the electrical and communication industries, which require refined copper with a purity of greater than 99.9 percent. This is confirmed by the Economic Impact Analysis in this proceeding, stating that copper's largest single use "is in electrical and electronic products" (p. V-2). The existence of an extremely limited market for unrefined copper does not support a re-definition of processing to exclude refining.

In short, there is no question that processing means smelting and refining. EPA is without authority to regulate wastes from smelting and refining under RCRA until it performs the study of processing wastes required by Congress in Section 8002(p).

B. Legislative History

EPA states that its current interpretation of the Bevill Amendment "does not reflect either the special waste concept or the intent of Congress" (50 Fed. Reg. 40294).1/ This conclusion is an unwarranted departure from the plain meaning of the statute based on legislative history that is at best vague and at least equally supportive of the plain meaning. The text of the Bevill Amendment and the study provision in Section 8002(p) leave no doubt that all primary smelting and refining wastes are to be studied and are not to be regulated under RCRA until the study is complete. This unmistakable purpose cannot be overridden by selective quotation from inconclusive legislative history. This is particularly true where, as here: (1) EPA's reinterpretation would produce regulatory consequences directly at odds with Congressional waste management policies; and (2) EPA bears the heavy burden of justifying reversal of a long-standing interpretation completely in accord with the plain meaning of the Act. These points are presented in detail in the Legal Memorandum attached as Appendix A.

II. EPA HAS FAILED TO PERFORM THE STUDY OF PROCESSING WASTES REQUIRED BY CONGRESS IN SECTION 8002(p).

In Section 8002(f) of RCRA, enacted in 1976, Congress instructed EPA to conduct a detailed and comprehensive study of the adverse effects, if any, of solid waste from active and abandoned surface underground mines on the environment. In

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1/ EPA also rejects the current interpretation because "it would dilute resources available for studies of large volume wastes of interest to Congress" (id.). This mistakenly assumes that Congress was not interested in smelting and refining waste. It is also curious in view of the fact that the "final" mine waste study is now complete and was submitted to Congress in December.

1980, Congress amended RCRA by adding Section 8002(p), which required EPA to study adverse effects, if any, of solid waste from the extraction, beneficiation, and processing of ores and minerals. At the same time, Congress enacted the Bevill Amendment to exclude these wastes from regulation under Subtitle C until completion of the studies called for in Sections 8002(f) and 8002(p).

In 1977, EPA engaged PEDCo Environmental, Inc., as its consultant for the Section 8002(f) study. PEDCo stated at the outset that it would not study wastes from "roasting, smelting, refining and other chemical processing" (Study of Adverse Effects of Solid Wastes From All Mining Activities On The Environment, January 1979, p. iii), and said in the introduction to its Final Draft Report (November 1983) that its study encompassed wastes from "mining" and "beneficiation," with no reference to "processing" (Evaluation of Management Practices for Mine Solid Waste, Storage, Disposal, and Treatment, Volume I, p. 1-1).

In its Report to Congress, EPA acknowledges that it has "excluded from the scope of this report wastes generated in the processing of ores or minerals" (p. 1-9). EPA then states that it will address "large-volume wastes (such as slag and phosphogypsum) generated by these processes in a subsequent report" (id.), thus anticipating that its reinterpretation of the Bevill Amendment would become final and that smelter slag is the only primary metal processing waste it need be concerned with. In other words, EPA admits that it has not yet performed any study of processing waste as required by Section 8002(p), and that the study it plans to perform will be limited to smelter slag in the case of the copper industry.

EPA cannot avoid its obligation to study processing wastes simply by declaring that the Bevill Amendment does not mean what it says. EPA should undertake the study of all processing wastes as mandated by Congress. Until that study is completed and the required report is submitted to Congress, EPA should continue the interpretation of the Bevill Amendment it adopted in 1980.

III. SEPARATE REGULATION OF SMELTING AND REFINING WASTE SHOULD NOT BE IMPOSED ON INTEGRATED MINING, MILLING, AND PROCESSING FACILITIES.

Kennecott's copper processing facilities in Utah, New Mexico, and Arizona are integrated operations where copper-bearing ore is mined, milled, and smelted; in Utah and Arizona the copper is further processed in refineries to produce a finished and marketable product. Under EPA air quality regulations, smelters cannot operate without acid plants. Acid plant blowdown slurry/sludge, which EPA proposes to re-list as Hazardous Waste No. K064, is thus an integral part of the processing of copper ore. Despite the fact that Congress directed EPA to study mining waste in conjunction with waste from the extraction, beneficiation, and processing of ores and minerals, EPA is now proposing to regulate processing wastes without study and without regard to current management of intermingled process streams at integrated facilities.

Kennecott does not segregate acid plant blowdown from mining and milling wastes. At Utah, for example, the blowdown goes to a wastewater treatment plant, which also receives other smelter and refinery wastes. Excess lime treatment precipitates a sludge, which is pumped to an on-site surface impoundment near the tailings pond. The treated wastewater is placed on the tailings pond. Tailings pond water in turn is recirculated to the concentrators for reuse. Excess water discharged from the tailings pond is subject to an NPDES permit. Kennecott's facilities in New Mexico and Arizona also use acid plant blowdown handling systems which integrate smelting operations with tailings ponds and recirculate water under state requirements to conserve water in these arid regions.

Kennecott is presently studying a system of pumping the wastewater treatment plant sludge directly to the tailings pond, and research and plant data suggest that this would be an environmentally sound disposal practice. Indeed, mixing the sludge with tailings would be consistent with a major goal of the 1984 RCRA Amendments, which was to eliminate disposal in surface impoundments.

If, however, the proposed reinterpretation of the Bevill Amendment goes forward, Kennecott would be precluded from mixing sludge with tailings under RCRA's "derived from"

rule, 40 CFR 261.3(d)(2), because the tailings pond could be deemed a hazardous waste disposal facility subject to Subtitle C requirements that could not possibly be met. Indeed, if treatment plant water, which is presently discharged to the tailings pond for collection and recirculation back to the concentrator, is meant to be classified as a hazardous waste by category K064, both the tailings pond and the concentrators could immediately be deemed hazardous waste facilities under the "derived from" rule.1/ These are issues of critical importance to Kennecott's integrated operations, yet they are nowhere addressed in the proposed rulemaking. The fact is that wastes from mining, milling, smelting, and refining are intermingled at integrated facilities, and that is why they need to be studied together before regulations are considered. The study required by Section 8002(p) should be made before smelting and refining wastes are regulated separately from mining and milling wastes as EPA is now proposing.2/

1/ Moreover, if solids from thickening of Hazardous Waste No. K064 are returned to the smelter for metals recovery, the smelter itself could be deemed a hazardous waste treatment facility.

2/ There would be no adverse health effects from deferring regulation of smelting and refining waste until the completion of mandated studies. While the rulemaking proposal does not address this subject at all, the docket does contain a Draft Report prepared by ICF Incorporated entitled Analysis of Human Health Risks Associated With the Management of Hazardous Wastes from the Primary Smelting and Refining Industries (February 1985). That report contends that acid plant blowdown slurry/sludge leaching to groundwater poses a risk of cancer from arsenic and a risk of non-cancer health effects from fluoride. As demonstrated in the analysis performed by Gradient Corporation, submitted with the Comments of the American Mining Congress, the ICF document is significantly flawed and does not support any findings on adverse health effects from smelting and refining wastes.

IV. EPA HAS GREATLY UNDERESTIMATED THE COST OF SUBTITLE C REGULATION OF SMELTING AND REFINING WASTES.

To evaluate the economic impact of the present proposal, Kennecott retained the consulting firm of Dames & Moore to study its three facilities in Utah, New Mexico, and Arizona. That study, which is attached as Appendix B, indicates minimum compliance costs for Kennecott's facilities of $27.8 million in initial capital expenditures, $38.6 million in total capital expenditures, and at least $9.4 million in additional pre-tax annual operating and maintenance costs. EPA's contractor, by contrast, has projected just $2.6 million in capital outlays and $236,000 in annual pre-tax operating and maintenance costs for the entire copper processing industry (Economic Impact Analysis, Table 2, p. 6). As detailed in the Dames and Moore report, EPA's cost estimates are understated because EPA assumed that the only costs incurred would be to meet current Subtitle C landfill requirements, failed to take into account any costs associated with permitting requirements under Section 3004(u) or with upgrading existing wastewater treatment plants to meet RCRA's delisting criteria, and miscalculated the quantities of waste that would be subject to regulation.

A further discussion of EPA's cost impact study, prepared by a Kennecott economic analyst, is attached as Appendix C. This discussion indicates that using the same annualized cost methodology by which EPA produced industry-wide expenses of just $402,000, Kennecott, for its three facilities alone, would incur annualized costs of $6.3 million based on current tax law and using the Dames and Moore estimates. Additionally, EPA should give some recognition to the fact that the tax law could change in the near future. If both EPA's and Kennecott's annualized cost calculations were changed to reflect the House-passed tax bill, the annualized costs estimated by EPA would increase to $510,000, while the costs based on Kennecott's analysis would approach $7.8 million.

In any event, Kennecott does not believe that EPA's annualized cost methodology is appropriate in this proceeding. Instead, the economic analysis should be based on the net present value of future costs, which provides a much better reflection of cash flow requirements, a crucial factor in a depressed industry such as domestic copper processing. Net present value analysis results in costs of $124.5 million for

Kennecott's facilities, compared to $6.2 million using EPA's industry-wide figures; under the proposed tax law, Kennecott's costs would be $148.1 million compared to EPA's $7.7 million for the industry.

Differences in cost estimates are to be expected in proceedings like this one, but not differences of such magnitude. At the very least, EPA should undertake a close examination of these differences, and Kennecott would like to take part in such an effort jointly with EPA and its consulting firm to see what the problem is and how it should be resolved. To make a decision without further examination of the costs involved could gravely injure an industry that is already in deep financial trouble.1/

Finally, EPA's cost estimates for smelting and refining waste totally ignore the costs that may be imposed as a result of the mining waste study submitted to Congress under Section 8002(f). There, EPA's consultant projected cost impacts ranging up to $3,417 per metric ton of copper produced, depending on the scope of the regulations adopted (Report to Congress, Table 5-7, p. 5-21). At integrated facilities like Kennecott's, costs imposed by regulation of smelting and refining wastes simply cannot be considered in isolation from costs imposed by regulation of mining waste. Congress clearly intended that both mining waste and processing wastes would be studied together, and EPA's failure to do that threatens to impose an unwarranted and potentially crippling burden on integrated facilities.

1/ Kennecott has been hard hit by the long-term decline in copper prices which began in 1982 and shows no sign of abating. Current copper prices are approximately 60 cents a pound, a level in real terms lower than that experienced in the Depression. Few, if any, domestic copper producers are able to cover their costs of production at current prices. Many operations have either shut down completely or have drastically curtailed production. The impact on Kennecott's domestic operations has been severe. In 1980, Kennecott had 12,300 employees, but today its work force stands at approximately 2,200. Kennecott has incurred losses since 1982 of more than $500 million. This year, through the end of the third quarter, Kennecott has lost $120 million, despite ambitious cost reduction measures. Other domestic copper producers are in similar difficulty.

CONCLUSION

The proposed reinterpretation of the Bevill Amendment should be withdrawn. It is plainly illegal, and would create major compliance problems for integrated facilities, requiring substantial expenditures for no discernible environmental benefit. EPA should undertake the study of smelting and refining waste required by Congress in Section 8002(p). Until that study is completed, all waste from the exploration, mining, milling, smelting, and refining of copper ore should continue to be excluded from RCRA regulation under Subtitle C.

Respectfully submitted,

/s/ Robert A. Malone

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